U.S. Patent Application Serial No. 10/531,913 Response to Office Action dated October 21, 2005

IN THE SPECIFICATION:

Please insert the following heading after the title of the invention:

BACKGROUND OF THE INVENTION

Please delete the subheading before paragraph [0001] and replace with the following subheading:

FIELD OF THE INVENTION

Please amend paragraph [0001] as follows:

The present invention relates to a card connector into which a card such as <u>an</u> SD (Secure Digital) memory card is inserted.

Please delete the subheading before paragraph [0002] and replace with the following subheading:

DESCRIPTION OF THE RELATED ART

Please amend paragraph [0003] as follows:

Such a card connector is so constituted formed such that a part of the card pops out of the slot so that a user can easily take out the card when the card is discharged.

Please delete the subheading before paragraph [0005] and replace with the following subheading:

SUMMARY OF THE INVENTION

Please amend paragraph [0005] as follows:

In the above card connector, a spring is used as means for discharging the card.

Therefore, there are problems, for example, when the card is discharged, the card pops out of the slot by inertia force applied to the card and the card could be lost or injure cause injury to the users face.

Please delete the subheading "Effect of the Invention" before paragraph [0012].

Please amend paragraph [0012] as follows:

In the case of the card connector according to claim 1 of the present invention, when the card is discharged, the slider is moved to the card pop-out preventing position by the urging force of the spring, and when the slider is positioned at the card pop-out preventing position, the tip end of the lock spring abuts on the first rib provided in the base so that it is prevented from being moved in the direction away from the card. Therefore, the state in which the tip end of the lock spring engages with the engagement recess of the card is maintained and the card can be prevented from popping out. As a result, the card is not lost or does not injure the user's face

because the card does not pop out when the card is discharged unlike the conventional example. In addition, since the because friction is not used to prevent the card from popping out unlike the conventional example, the connector itself is not easily damaged.

Please amend paragraph [0013] as follows:

In the case of the card connector according to claim 2 of the present invention, when the slider is positioned at the card insertion position, the tip end of the lock spring abuts on the second rib provided in the base and it is prevented from being moved. Therefore, the state in which the tip end of the lock spring engages with the engagement recess of the card is maintained and the inserted card cannot be forcedly pulled out. As a result, the card connector can be prevented from being damaged because the card is not forcedly pulled out.

Please amend paragraph [0014] as follows:

In the case of the card connector according to claim 3 of the present invention, when the slider is positioned at the card pop-out preventing position, it abuts on the elastic member provided in the base and it is returned from the card pop-out preventing position to the card discharging position. As a result, a situation in which the card cannot be taken out because the slider is still positioned at the card pop-out preventing position can be avoided.

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Please amend paragraph [0015] as follows:

In the case of the card connector according to claim 4 of the present invention, the tip end of the lock spring can be elastically deformed so as to disengage from the engagement recess of the card while it abuts on at least the first rib. As a result, even if the card cannot be appropriately discharged because of malfunction, the card can be taken out.

Please delete the subheading "EXPLANATION OF REFERENCE NUMERALS" before paragraph [0017].

Please delete paragraph [0017].

Please delete the subheading before paragraph [0018], and replace with the following subheading:

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

Please delete the subheading "Embodiment 1" before paragraph [0019].

Please amend paragraph [0019] as follows:

First, a card connector according to [[an]] a first embodiment [[1]] of the present invention will be described with reference to the drawings. Fig. 1 is a schematic plan view

showing a card connector in which its inside is transparent according to the embodiment 1 of the present invention, Fig. 2 is a sectional view showing the card connector taken along line a-a when a slider is positioned at a card discharging position, Fig. 3 is a sectional view showing the card connector taken along line a-a when the slider is positioned at a card insertion position, Fig. 4 is a sectional view showing the card connector taken along line a-a when the slider is positioned at a card pop-out preventing position, and Fig. 5 is a view for explaining the slider of the card connector, in which (a) is a schematic perspective view showing the slider taken from beneath and (b) is a schematic perspective view showing the slider taken from above.

Please amend paragraph [0028] as follows:

The cam groove 220 constitutes the heart cam mechanism together with a pin (not shown). The heart cam mechanism is well-kwon well-known in the art, which locks the card M in the card insertion position β when the card M inserted in the slot 110 is pushed and cancels the lock when the card is pushed again.

Please amend paragraph [0029] as follows:

In addition, as shown in Figs. 2, 3 and 4, a convex part 230 which fits in the recess 30 of the card M is provided on one side face of a rear end of the slider 200. The tip end 410 of the lock spring 400 engages with the engagement recess 10 of the card M in a state where the convex part 230 fits in the recess 30 of the card M (refer to Fig. 1). Thus, the slider 200 can be slid made

to slide with the card M. In addition, a hole 240 in which the spring 300 fits is formed at the rear end of the slider 200.

Please amend paragraph [0038] as follows:

When the slider 200 is positioned at the card discharging position ε , the tip end 410 of the lock spring 400 does not abut on the first rib 130 as shown in Fig. 2. That is, [[since]] because the tip end 410 of the lock spring 400 can be moved from the initial position γ to the retreated position δ , the card M can be pulled out of the slot 110.

Please amend paragraph [0039] as follows:

According to the above card connector A, [[since]] because the tip end 410 of the lock spring 400 abuts on the first rib 130 provided at the base 100 and is prevented from being moved to the retreated position δ when the slider 200 is positioned at the card pop-out preventing position α , so that the state in which the tip end 410 engages with the engagement recess 10 of the card M is maintained. As a result, the card M can be prevented from popping out. Thus, the card M is prevented from being lost or from injuring [[a]] the face of a user because of popping out when it is discharged, as [[like]] in the conventional example. In addition, [[since]] because the card M is not prevented from popping out using [[the]] friction unlike in the conventional example, the card connector A itself is not likely damaged.

Please delete the subheading "Embodiment 2" before paragraph [0040].

Please amend paragraph [0040] as follows:

Next, a card connector according to [[an]] a <u>second</u> embodiment [[2]] of the present invention will be described with reference to the drawings. Fig. 6 is a schematic plan view showing a card connector in which its inside is transparent according to the embodiment 2 of the present invention, Fig. 7 is a sectional view showing the card connector taken along line a-a when a slider is positioned at a card insertion position, Fig. 8 is an enlarged sectional view showing a part X of the card connector in Fig. 6, in which (a) is a view showing a state when the slider is positioned at the card discharging position, and (b) is a view showing a state when the slider is positioned at a card pop-out preventing position, Fig. 9 is a bottom view showing a tip end of the slider on which a lock spring of the card connector is mounted, and Fig. 10 is an enlarged sectional view showing the part X in a state where the lock spring of the card connector is elastically deformed.

Please amend paragraph [0045] as follows:

As shown in Fig. 7, the lock spring 900 is constituted formed such that a linear plate spring is bent like in the first embodiment [[1]] and comprises an angular hook-shaped tip end 910, an almost L-shaped base end 920 and a liner middle part 930 between the tip end 910 and the base end 920. The lock spring 900 is so constituted formed such that the tip end 910

protrudes from a space between the base part and the convex part 812 of the slider 800 toward the slot 710 when the base end 920 engages with the engagement groove 811 of the slider 800 to be mounted on the slider 800. As shown in Fig. 10, when the card M is pulled out in a state where the tip end 910 of the lock spring 900 abuts on the first rib 730, the tip end 910 is pushed toward a wall face of the engagement recess 10 of the card M and then elastically deformed. The middle part 930 is also elastically deformed as the tip end 910 is elastically deformed and it is displaced in the direction away from the slot 710. Thus, the tip end 910 of the lock spring 900 disengages from the engagement recess 10, so that the card M can be taken out.

Please amend paragraph [0048] as follows:

Then, the recess 30 of the card M abuts on the convex part 830 of the slider 800, whereby the slider 800 is [[slid]] caused to slide with the card M from the card discharging position ε to a card insertion position β . At this time, the tip end 910 of the lock spring 900 is displaced from the retreated position δ to the initial position γ and fits in the engagement recess 10 of the card M.

Please amend paragraph [0052] as follows:

When the slider 800 is positioned at the card discharging position ε , the tip end 910 of the lock spring 900 is opposed to the recess 761 of the convex ridge 760 as shown in Fig. 8(a). That is, [[since]] because the tip end 910 of the lock spring 900 is moved from the initial position γ to the retreated position δ , the card M can be pulled out of the slot 710.

Please amend paragraph [0054] as follows:

According to this card connector A', when the slider 800 is positioned at the card pop-out preventing position α , the tip end 910 of the lock spring 900 abuts on the first rib 730 provided at the base 700, so that it is prevented from being moved to the retreated position δ and the state in which the tip end 910 engages with the engagement recess 10 of the card M is maintained. As a result, the card M is prevented from popping out. Thus, the card M is prevented from being lost or from injuring the face of a user because it pops out when it is discharged unlike in the conventional example. In addition, [[since]] because the card M is not prevented from popping out using the friction like in the conventional example, the card connector A itself is not likely to be damaged. In addition, when the card M is pulled in case of some trouble, [[since]] because the tip end 910 of the lock spring 900 is elastically deformed and disengages from the engagement recess 10 of the card M, the card M is not stuck in the slot 710.